
Comments for the Connecticut Energy and Technology Committee

HB 6242 HEARING

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FEBRUARY 21, 2019

Thank you for the opportunity to present comments today. My name is Paul Peterson and I work at Synapse Energy Economics, a small consulting firm in Cambridge Massachusetts that specializes in national and regional energy and environmental studies for state, regional, and national clients. One area of my expertise is the New England power grid, its operations, its markets and its system planning process.

In consideration of House Bill 6242, an understanding of the New England electric power system is helpful, if not essential. The resources that support the reliable delivery of electricity have changed in the last decade and will change even more so in the next ten years. A power grid once supplied largely by fossil, nuclear, and small hydro resources is now over 25 percent renewables. By 2030, it will be approaching 50 percent renewables, with large increases in clean imports, off-shore wind, and solar. Energy efficiency continues to be the cheapest resource and will continue its contributions to peak load and energy reductions.

These significant changes to the resource mix have occurred because of policies implemented in all six New England states to promote cost-effective energy efficiency programs, provide support for renewable technologies including wind and solar, and reduce emissions from power plants. States move at different speeds. Connecticut has been a leader from the start with efforts to improve efficiency, encourage new technologies, and implement specific policies and programs.

Given the technology changes and improvements that are documented, and the commitments the states in this region have made to acquire clean resources [in order to begin the difficult process of reducing the carbon footprint of the electric grid], we can provide the following observations.

- Gas used to supply electric power plants in New England has been decreasing over the last several years and will continue to decrease in the next several years
- New England electric energy to serve load has been flat and is now declining slightly each year, despite regional economic growth.
- Costs of renewable technologies have declined substantially and will continue on a downward, albeit less steep, trend. Costs for solar, offshore wind, and batteries have seen some of the largest declines.

- State legislatures and energy offices continue to evaluate ways to accelerate carbon reductions by raising RPS targets, contracting for offshore wind, evaluating storage opportunities, and renewing energy efficiency and solar programs

The handout I provided you has many of the details about the topics above. In particular, the New England fuel-mix chart, the graph of declining solar costs, the list of state initiatives, and the graph of declining natural gas need for electricity (a third less than New England used in 2015!) are useful. All of the trends discussed above are supported by data, much of it provided by ISO New England, the regional grid operator.

Neither electric ratepayers, nor any other investor, should commit to a natural gas pipeline for electric power generation given the reduced role of natural gas over the coming years as other resources are developed. Recent proposals have suggested a twenty-year commitment from electric ratepayers would be needed to pay off the costs of a \$10 billion new pipeline.

It is important to separate the issue of more natural gas for power plants from the issue of more natural gas for residential and commercial customers. There are well-established regulatory procedures for LDCs to increase firm pipeline commitments to serve long-term customers; those procedures include financing for new gas pipelines. Power plants in New England purchase most of their gas from the spot market, the residual market after all LDC firm commitments are satisfied. The combination of firm gas and spot gas has served New England well over the past decade; spot gas is significantly cheaper than firm gas for a power plant and those savings have been passed on to electric grid consumers. It is only during winter peak demand days that natural gas supplies become too expensive for electric power production.

This concludes my comments and I am available to respond to questions.